D. Kruse

Re-run

#9

1638

```
                    RAW SEQUENCE LISTING              DATE: 06/04/2002
                    PATENT APPLICATION:  US/09/462,629B   TIME: 11:00:17

                    Input Set : N:\paola\US09462629B.RAW
                    Output Set: N:\CRF3\06042002\I462629B.raw
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  1 <110> APPLICANT: Seulberger, Harald
  2        Lerchl, Jenms
  3        Schmidt, Ralf-Michael
  4        Krupinska, Karin
  5        Falk, Jon
  6 <120> TITLE OF INVENTION: DNA sequence encoding a hydroxyphenylpyruvate dioxygenase,
and its
  7        overproduction in plants
  8 <130> FILE REFERENCE: 0050/48141
C--> 9 <140> CURRENT APPLICATION NUMBER: US/09/462,629B
 10 <141> CURRENT FILING DATE: 2000-01-11
 11 <150> PRIOR APPLICATION NUMBER: PCT/EP98/03832
 12 <151> PRIOR FILING DATE: 1998-06-23
 13 <160> NUMBER OF SEQ ID NOS: 16
 14 <170> SOFTWARE: WordPerfect version 6.1
 16 <210> SEQ ID NO: 1
 17 <211> LENGTH: 1565
 18 <212> TYPE: DNA
 19 <213> ORGANISM: hppd from barley
 20 <220> FEATURE:
 21 <221> NAME/KEY: CDS
 22 <222> LOCATION: 9 ... 1313
 23 <400> SEQUENCE: 1
 24        cgcacacc atg ccg ccc acc ccc acc acc ccc gcg gct acc ggc gcc gcc50
 25                 Met Pro Pro Thr Pro Thr Thr Pro Ala Ala Thr Gly Ala Ala
 26                  1               5                   10
 27        gcc gcg gtg acg ccg gag cac gcg cga ccg cac cga atg gtc cgc ttc98
 28        Ala Ala Val Thr Pro Glu His Ala Arg Pro His Arg Met Val Arg Phe
 29         15              20                  25                  30
 30        aac ccg cgc agc gac cgc ttc cac acg ctc tcc ttc cac cac gtc gag146
 31        Asn Pro Arg Ser Asp Arg Phe His Thr Leu Ser Phe His His Val Glu
 32                    35                  40                  45
 33        ttc tgg tgc gcg gac gcc gcc tcc gcc gcc ggc cgc ttc gcg ttc gcg194
 34        Phe Trp Cys Ala Asp Ala Ala Ser Ala Ala Gly Arg Phe Ala Phe Ala
 35                    50                  55                  60
 36        ctc ggc gcg ccg ctc gcc gcc agg tcc gac ctc tcc acg ggg aac tcc242
 37        Leu Gly Ala Pro Leu Ala Ala Arg Ser Asp Leu Ser Thr Gly Asn Ser
 38                    65                  70                  75
 39        gcg cac gcc tcc cag ctg ctc cgc tcg ggc tcc ctc gcc ttc ctc ttc290
 40        Ala His Ala Ser Gln Leu Leu Arg Ser Gly Ser Leu Ala Phe Leu Phe
 41             80                  85                  90
 42        acc gcg ccc tac gcc aac ggc tgc gac gcc gcc acc gcc tcc ctg ccc338
 43        Thr Ala Pro Tyr Ala Asn Gly Cys Asp Ala Ala Thr Ala Ser Leu Pro
 44         95                  100                 105                 110
```

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45   tcc ttc tcc gcc gac gcc gcg cgc cgg ttc tcc gcc gac cac ggg atc386
46   Ser Phe Ser Ala Asp Ala Ala Arg Arg Phe Ser Ala Asp His Gly Ile
47           115               120                   125
48   gcg gtg cgc tcc gta gcg ctg cgc gtc gca gac gcc gcc gag gcc ttc434
49   Ala Val Arg Ser Val Ala Leu Arg Val Ala Asp Ala Ala Glu Ala Phe
50           130               135                   140
51   cgc gcc agt cgt cga cgg ggc gcg cgc ccg gcc ttc gcc ccc gtg gac482
52   Arg Ala Ser Arg Arg Arg Gly Ala Arg Pro Ala Phe Ala Pro Val Asp
53           145               150                   155
54   ctc ggc cgc ggc ttc gcg ttc gcg gag gtc gag ctc tac ggc gac gtc530
55   Leu Gly Arg Gly Phe Ala Phe Ala Glu Val Glu Leu Tyr Gly Asp Val
56           160               165                   170
57   gtg ctc cgc ttc gtc agc cac ccg gac ggc acg gac gtg ccc ttc ttg578
58   Val Leu Arg Phe Val Ser His Pro Asp Gly Thr Asp Val Pro Phe Leu
59   175               180                   185                   190
60   ccg ggg ttc gag ggc gta acc aac ccg gac gcc gtg gac tac ggc ctg626
61   Pro Gly Phe Glu Gly Val Thr Asn Pro Asp Ala Val Asp Tyr Gly Leu
62           195               200                   205
63   acg cgg ttc gac cac gtc gtc ggc aac gtc ccg gag ctt gcc ccc gcc674
64   Thr Arg Phe Asp His Val Val Gly Asn Val Pro Glu Leu Ala Pro Ala
65           210               215                   220
66   gca gcc tac atc gcc ggg ttc acg ggg ttc cac gag ttc gcc gag ttc722
67   Ala Ala Tyr Ile Ala Gly Phe Thr Gly Phe His Glu Phe Ala Glu Phe
68           225               230                   235
69   acg gcg gag gac gtg ggc acg acc gag agc ggg ctc aac tcg gtg gtg770
70   Thr Ala Glu Asp Val Gly Thr Thr Glu Ser Gly Leu Asn Ser Val Val
71           240               245                   250
72   ctc gcc aac aac tcg gag ggc gtg ctg ctg ccg ctc aac gag ccg gtg818
73   Leu Ala Asn Asn Ser Glu Gly Val Leu Leu Pro Leu Asn Glu Pro Val
74   255               260                   265                   270
75   cac ggc acc aag cgc cgg agc cag ata cag acg ttc ctg gaa cac cac866
76   His Gly Thr Lys Arg Arg Ser Gln Ile Gln Thr Phe Leu Glu His His
77           275               280                   285
78   ggc ggc ccg ggc gtg cag cac atc gcg gtg gcc agc agt gac gtg ctc914
79   Gly Gly Pro Gly Val Gln His Ile Ala Val Ala Ser Ser Asp Val Leu
80           290               295                   300
81   agg acg ctc agg aag atg cgt gcg cgc tcc gcc atg ggc ggc ttc gac962
82   Arg Thr Leu Arg Lys Met Arg Ala Arg Ser Ala Met Gly Gly Phe Asp
83           305               310                   315
84   ttc ctg cca ccc ccg ctg ccg aag tac tac gaa ggc gtg cga cgc ctt1010
85   Phe Leu Pro Pro Pro Leu Pro Lys Tyr Tyr Glu Gly Val Arg Arg Leu
86           320               325                   330
87   gcc ggg gat gtc ctc tcg gag gcg cag atc aag gaa tgc cag gag ctg1058
88   Ala Gly Asp Val Leu Ser Glu Ala Gln Ile Lys Glu Cys Gln Glu Leu
89   335               340                   345                   350
90   ggt gtg ctc gtc gat agg gac gac caa ggg gtg ttg ctc caa atc ttc1106
91   Gly Val Leu Val Asp Arg Asp Asp Gln Gly Val Leu Leu Gln Ile Phe
92           355               360                   365
93   acc aag cca gta ggg gac agg ccg acc ttg ttc ctg gag atg atc cag1154
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RAW SEQUENCE LISTING   DATE: 06/04/2002
PATENT APPLICATION: US/09/462,629B   TIME: 11:00:17

Input Set : N:\paola\US09462629B.RAW
Output Set: N:\CRF3\06042002\I462629B.raw

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 94         Thr Lys Pro Val Gly Asp Arg Pro Thr Leu Phe Leu Glu Met Ile Gln
 95                      370             375             380
 96         agg atc ggg tgc atg gag aag gac gag aga ggg gaa gag tac cag aag1202
 97         Arg Ile Gly Cys Met Glu Lys Asp Glu Arg Gly Glu Glu Tyr Gln Lys
 98                      385             390             395
 99         ggt ggc tgc ggc ggg ttc ggc aaa ggc aac ttc tcc gag ctg ttc aag1250
100          Gly Gly Cys Gly Gly Phe Gly Lys Gly Asn Phe Ser Glu Leu Phe Lys
101              400             405             410
102         tcc att gaa gat tac gag aag tcc ctt gaa gcc aag caa tct gct gca1298
103         Ser Ile Glu Asp Tyr Glu Lys Ser Leu Glu Ala Lys Gln Ser Ala Ala
104        · 415             420             425             430
105         gtt cag gga tca taggatagaa gctggtcctt gtatcatggt ctcatggagc  1350
106         Val Gln Gly Ser
107         aaaagaaaac aatgttgttt gtaatatgcg tcgcacaatt atatcaatgt tataattggt1410
108         gaagctgaag acagatgtat cctatgtatg atgggtgtaa tggatggtag aggggctcac1470
109         acatgaagaa aatgtagcgt tgacattgtt gtacaatctt gcttgcaagt aaaataaaga1530
110         acagattttg agttctgcaa aaaaaaaaaa aaaaa                   1565
112 <210> SEQ ID NO: 2
113 <211> LENGTH: 434
114 <212> TYPE: PRT
115 <213> ORGANISM: hppd from barley
116 <400> SEQUENCE: 2
117         Met Pro Pro Thr Pro Thr Thr Pro Ala Ala Thr Gly Ala Ala Ala Ala
118          1           5               10              15
119         Val Thr Pro Glu His Ala Arg Pro His Arg Met Val Arg Phe Asn Pro
120                      20              25  .           30
121         Arg Ser Asp Arg Phe His Thr Leu Ser Phe His His Val Glu Phe Trp
122                      35              40              45
123         Cys Ala Asp Ala Ala Ser Ala Ala Gly Arg Phe Ala Phe Ala Leu Gly
124              50              55              60
125         Ala Pro Leu Ala Ala Arg Ser Asp Leu Ser Thr Gly Asn Ser Ala His
126          65              70              75              80
127         Ala Ser Gln Leu Leu Arg Ser Gly Ser Leu Ala Phe Leu Phe Thr Ala
128·                     85              90              95
129         Pro Tyr Ala Asn Gly Cys Asp Ala Ala Thr Ala Ser Leu Pro Ser Phe
130                      100             105             110
131         Ser Ala Asp Ala Ala Arg Arg Phe Ser Ala Asp His Gly Ile Ala Val
132                      115             120  .          125
133         Arg Ser Val Ala Leu Arg Val Ala Asp Ala Ala Glu Ala Phe Arg Ala
134              130             135             140
135         Ser Arg Arg Arg Gly Ala Arg Pro Ala Phe Ala Pro Val Asp Leu Gly
136          145             150             155             160
137         Arg Gly Phe Ala Phe Ala Glu Val Glu Leu Tyr Gly Asp Val Val Leu
138                      165             170             175
139         Arg Phe Val Ser His Pro Asp Gly Thr Asp Val Pro Phe Leu Pro Gly
140                      180             185             190
141         Phe Glu Gly Val Thr Asn Pro Asp Ala Val Asp Tyr Gly Leu Thr Arg
142                      195             200             205
143         Phe Asp His Val Val Gly Asn Val Pro Glu Leu Ala Pro Ala Ala Ala
```

```
144          210                  215                  220
145     Tyr Ile Ala Gly Phe Thr Gly Phe His Glu Phe Ala Glu Phe Thr Ala
146     225                  230                  235                  240
147     Glu Asp Val Gly Thr Thr Glu Ser Gly Leu Asn Ser Val Val Leu Ala
148                          245                  250                  255
149     Asn Asn Ser Glu Gly Val Leu Leu Pro Leu Asn Glu Pro Val His Gly
150                          260                  265                  270
151     Thr Lys Arg Arg Ser Gln Ile Gln Thr Phe Leu Glu His His Gly Gly
152                  275                  280                  285
153     Pro Gly Val Gln His Ile Ala Val Ala Ser Ser Asp Val Leu Arg Thr
154          290                  295                  300
155     Leu Arg Lys Met Arg Ala Arg Ser Ala Met Gly Gly Phe Asp Phe Leu
156     305                  310                  315                  320
157     Pro Pro Pro Leu Pro Lys Tyr Tyr Glu Gly Val Arg Arg Leu Ala Gly
158                          325                  330                  335
159     Asp Val Leu Ser Glu Ala Gln Ile Lys Glu Cys Gln Glu Leu Gly Val
160                          340                  345                  350
161     Leu Val Asp Arg Asp Asp Gln Gly Val Leu Leu Gln Ile Phe Thr Lys
162                  355                  360                  365
163     Pro Val Gly Asp Arg Pro Thr Leu Phe Leu Glu Met Ile Gln Arg Ile
164          370                  375                  380
165     Gly Cys Met Glu Lys Asp Glu Arg Gly Glu Glu Tyr Gln Lys Gly Gly
166     385                  390                  395                  400
167     Cys Gly Gly Phe Gly Lys Gly Asn Phe Ser Glu Leu Phe Lys Ser Ile
168                          405                  410                  415
169     Glu Asp Tyr Glu Lys Ser Leu Glu Ala Lys Gln Ser Ala Ala Val Gln
170                  420                  425                  430
171     Gly Ser
173 <210> SEQ ID NO: 3
174 <211> LENGTH: 14
175 <212> TYPE: DNA
176 <213> ORGANISM: Artificial sequence
177 <220> FEATURE:
178 <221> NAME/KEY: misc_feature
179 <222> LOCATION: 1.. 14
180 <223> OTHER INFORMATION: primer
181 <400> SEQUENCE: 3
182     tttttttttt ttag                                        14
184 <210> SEQ ID NO: 4
185 <211> LENGTH: 14
186 <212> TYPE: DNA
187 <213> ORGANISM: Artificial sequence
188 <220> FEATURE:
189 <221> NAME/KEY: misc_feature
190 <222> LOCATION: 1.. 14
191 <223> OTHER INFORMATION: primer
192 <400> SEQUENCE: 4
193     tttttttttt ttca                                        14
195 <210> SEQ ID NO: 5
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RAW SEQUENCE LISTING   DATE: 06/04/2002
PATENT APPLICATION: US/09/462,629B   TIME: 11:00:17

Input Set : N:\paola\US09462629B.RAW
Output Set: N:\CRF3\06042002\I462629B.raw

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196 <211> LENGTH: 14
197 <212> TYPE: DNA
198 <213> ORGANISM: Artificial sequence
199 <220> FEATURE:
200 <221> NAME/KEY: misc_feature
201 <222> LOCATION: 1.. 14
202 <223> OTHER INFORMATION: primer
203 <400> SEQUENCE: 5
204       tttttttttt ttac                              14
206 <210> SEQ ID NO: 6
207 <211> LENGTH: 14
208 <212> TYPE: DNA
209 <213> ORGANISM: Artificial sequence
210 <220> FEATURE:
211 <221> NAME/KEY: misc_feature
212 <222> LOCATION: 1.. 14
213 <223> OTHER INFORMATION: primer
214 <400> SEQUENCE: 6
215       tttttttttt ttgt                              14
217 <210> SEQ ID NO: 7
218 <211> LENGTH: 10
219 <212> TYPE: DNA
220 <213> ORGANISM: Artificial sequence
221 <220> FEATURE:
222 <221> NAME/KEY: misc_feature
223 <222> LOCATION: 1.. 10
224 <223> OTHER INFORMATION: primer
225 <400> SEQUENCE: 7
226       tacaacgagg                                   10
228 <210> SEQ ID NO: 8
229 <211> LENGTH: 10
230 <212> TYPE: DNA
231 <213> ORGANISM: Artificial sequence
232 <220> FEATURE:
233 <221> NAME/KEY: misc_feature
234 <222> LOCATION: 1.. 10
235 <223> OTHER INFORMATION: primer
236 <400> SEQUENCE: 8
237       ggaaccaatc                                   10
239 <210> SEQ ID NO: 9
240 <211> LENGTH: 10
241 <212> TYPE: DNA
242 <213> ORGANISM: Artificial sequence
243 <220> FEATURE:
244 <221> NAME/KEY: misc_feature
245 <222> LOCATION: 1.. 10
246 <223> OTHER INFORMATION: primer
247 <400> SEQUENCE: 9
248       aaactccgtc                                   10
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/04/2002
PATENT APPLICATION: US/09/462,629B   TIME: 11:00:18

Input Set : **N:\paola\US09462629B.RAW**
Output Set: **N:\CRF3\06042002\I462629B.raw**

<u>**Invalid Line Length:**</u>
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 6

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/462,629B

DATE: 06/04/2002
TIME: 11:00:18

Input Set : **N:\paola\US09462629B.RAW**
Output Set: **N:\CRF3\06042002\I462629B.raw**

L:9 M:270 C: Current Application Number differs, Wrong Format